

# Style Template and Guidelines for SAMO Proceedings

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**Abstract:** This document shows the desired format and appearance of a manuscript prepared for the Proceedings of the SAMO 2004 Conference. It contains general formatting instructions and hints about how to use LaTeX. The LaTeX source file that produced this document, `article.tex` (Version 1.0), provides a template, which can be used in conjunction with `samo.cls` to produce a properly formatted manuscript.

**Keywords:** Manuscript format, template, SAMO Proceedings, LaTeX

## 1. INTRODUCTION

This document shows the desired format and appearance of a manuscript prepared for the SAMO Proceedings. It is prepared using LaTeX2e [1] with the class file `samo.cls`. The LaTeX source file used to create this document is `article.tex`, which contains important formatting information embedded in it. These files are available on the internet at <http://home.lanl.gov/kmh/samo/>. The font used throughout is the LaTeX default font, Computer Modern Roman, which is equivalent to the Times Roman font available on many other systems. If this font is not available, use a similar serif font. Normal text has a font size of 12 points\*. The font attributes for other parts of the manuscript, which are summarized in Table 1, are described in the following sections. Normal text should be justified to both the left and right margins. Appendix B has information about PostScript fonts.

All text and figures, except for the footnote, should fit inside a rectangle 6.3-in. wide by 9.0-in. high or 16.3 cm by 22.86 cm. The text width and height are set in `samo.cls` to match this requirement. The text should begin 1.00 in. or 2.54 cm from the top of the page. The right and left margins should be 1.1 in. or 2.75 cm for US letter-size paper (8.5 in. by 11 in.) to horizontally center the text on the page. The submitted manuscript should be formatted for US letter paper size, not A4 paper.

Authors are encouraged to follow the principles of sound technical writing, as described in Ref. 2, for example. Many aspects of technical writing are addressed in the *AIP Style Manual*, published by the American Institute of Physics. It is available on

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\*Font sizes are specified in points, abbreviated pt., which is a unit of length. One inch = 72.27 pt.; one cm = 28.4 pt.

**Table 1.** Fonts sizes to be used for various types of text. All fonts are Computer Modern Roman or an equivalent. Table captions should be centered above the table. When the caption is too long to fit on one line, it should be justified to the right and left margins of the body of the text.

Article title	14 pt., bold, centered
Author names	12 pt., italic, centered
Affiliations	12 pt., normal, centered
Section heading	12 pt., bold, left justified, all upper case
Subsection heading	12 pt., bold, left justified
Sub-subsection heading	12 pt., italic, left justified
Normal text	12 pt., normal
Figure and table captions	11 pt., normal
Footnote	11 pt., normal
Reference list	11 pt., normal

line at <http://www.aip.org/pubservs/style/4thed/toc.html>. Good English usage is essential. A spelling checker is helpful for finding misspelled words.

An author may use this LaTeX source file as a template by substituting his/her own text in each field. This document is not meant to be a complete guide on how to use LaTeX. For that, refer to books on LaTeX usage, such as the definitive work by Lamport [1] or the very useful compendium by Goossens et al. [3].

## 2. PARTS OF MANUSCRIPT

This section describes the normal structure of a manuscript and how each part should be handled. The appropriate vertical spacing between various parts of this document is achieved in LaTeX through the proper use of defined constructs, such as `\section{}`. In LaTeX, paragraphs are separated by blank lines in the source file.

At times it may be desired, for formatting reasons, to break a line without starting a new paragraph. This situation may occur, for example, when formatting the article title, author information, or section headings. Line breaks are inserted in LaTeX by entering `\\` or `\linebreak` in the LaTeX source file at the desired location.

### 2.1. Title and Author Information

The article title appears centered at the top of the first page. The title font is 14 point, bold. The title should be capitalized the same way as for book titles. The first word of a subsection heading is capitalized. The remaining words are also capitalized, except for minor words with fewer than four letters, such as articles (a, an, and the), short prepositions (of, at, by, for, in, etc.), and short conjunctions (and, or, as, but, etc.). Avoid using acronyms in the title, unless they are widely understood. Consider the possibility

that people outside your area of expertise might read your article. Appendix A contains more about acronyms.

The list of authors immediately follows the title after a blank vertical space of about 9 mm. The font is 12 point, italic with each line centered. The authors' affiliations and addresses follow the author list after another blank space of about 6 mm, also in 12-point, normal font and centered. Avoid using acronyms in affiliations and addresses. For multiple affiliations, each affiliation should appear on a new line, separated from the following address by a semicolon. Italicized superscripts may be used to identify the correspondence between the authors and their respective affiliations. Further author information, such as telephone number, complete postal address, and web-site location, may be provided in a footnote by using `\authorinfo{}`, as demonstrated above.

When the abbreviated title or author information is too long to fit on one line, multiple lines may be used; insert line breaks appropriately to achieve a visually pleasing format. The proper spacing of one and one-half lines between the title, author list, and their affiliations is achieved with the LaTeX command `\skiplinehalf` defined in `samo.cls`.

## **2.2. Abstract and Keywords**

The title and author information is immediately followed by the Abstract. The Abstract should concisely summarize the key findings of the paper. It should consist of a single paragraph containing no more than 200 words. The Abstract does not have a section number. A list of up to ten keywords should immediately follow the Abstract after a blank line.

## **2.3. Body of Paper**

The body of the paper consists of numbered sections that present the main findings. These sections should be organized to best present the material. See Sect. 3 for formatting instructions.

## **2.4. Appendices**

Auxiliary material that is best left out of the main body of the paper, for example, derivations of equations, proofs of theorems, and details of algorithms, may be included in appendices. Appendices are enumerated with upper-case Latin letters in alphabetic order, and appear just before the Acknowledgments and References.

## **2.5. Acknowledgments**

In the Acknowledgments section, appearing just before the References, the authors may credit others for their guidance or help. Also, funding sources may be stated. The Acknowledgments section does not have a section number.

## 2.6. References

The References section lists books, articles, and reports that are cited in the paper. It does not have a section number. The references are numbered in the order in which they are cited. Examples of the formats to be followed are given at the end of this document.

The reference list at the end of this document is created using BibTeX, which looks through the file `report.bib` for the entries cited in the LaTeX source file. The format of the reference list is determined by the standard bibliography style file `unsrt.bst`, as specified in the `\bibliographystyle{unsrt}` command. Alternatively, the references may be directly formatted in the LaTeX source file.

The reference list should be in 11-pt. font. For books [1–4], the entry includes the list of authors, book title (in italics), page or chapter numbers, publisher, city, and year of publication. A reference to a journal article [5] includes the author list, title of the article, journal name (in italics, properly abbreviated), volume number followed by a colon, inclusive page numbers, and year. A reference to a proceedings paper or a chapter in an edited book [6] includes the author list, title of the article, conference name (in italics), if appropriate, editors, volume or series title (in italics), volume number, if applicable, inclusive page numbers, publisher, city, and year. References to an article in a series may include the conference name, as shown in Ref. 7.

Citations to the references are made using superscript numerals, as demonstrated in the preceding paragraph. One may also directly refer to a reference within the text, e.g., “as shown in Ref. 5 ...”. Footnotes<sup>†</sup> may be used to provide auxiliary information that doesn’t need to appear in the text, e.g., to explain measurement units. They should be used sparingly, however. Since only nine symbols are available, you may need to restart the sequence with the first symbol using the command `\footnote[1]{Your footnote text goes here.}`.

## 3. SECTION FORMATTING

Section headings are left justified and completely in upper-case 12-point bold font. Sections should be numbered sequentially, starting with the first section after the Abstract. The heading starts with the section number, followed by a period. In LaTeX, a new section is created with the `\section{}` command, which automatically numbers the sections.

### 3.1. Subsection Attributes

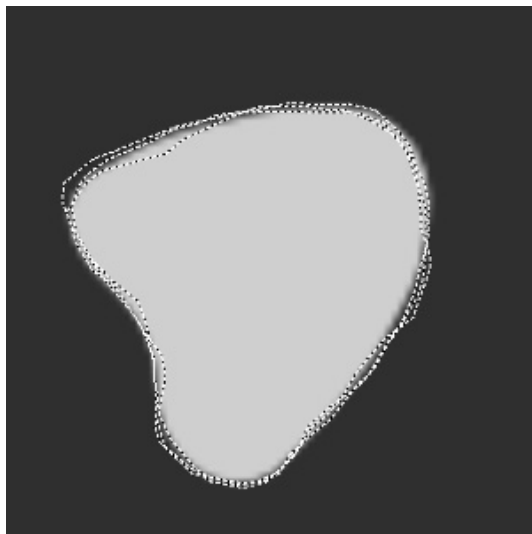
The subsection heading is left justified and set in 12-point, bold font. Capitalization rules are the same as those for book titles; see Sect. 2.1. Subsection numbers consist of the section number, followed by a period, and the subsection number within that section, followed by a period.

#### 3.1.1. Sub-subsection attributes

The sub-subsection heading is left justified and its font is 12 point, italic. Capitalize as for sentences. The first word of a sub-subsection heading is capitalized. The rest of the heading is not capitalized, except for acronyms and proper names.

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<sup>†</sup>Footnotes are indicated as superscript symbols.



**Figure 1.** Figure captions are used to label the figure and help the reader understand the figure's significance. The caption should be centered underneath the figure and set in 11-point font. It is preferable for figures and tables to be placed at the top or bottom of the page. LaTeX tends to adhere to this standard.

#### 4. FIGURES AND TABLES

Figures are numbered in the order of their first citation. They should appear in numerical order and on or after the same page as their first reference in the text. It is preferable to have figures appear at the top or bottom of the page. Figures, along with their captions, should be separated from the main text by at least 0.2 in. or 5 mm.

Figure captions are centered below the figure or graph. Figure captions start with the figure number in 11-point bold font, followed by a period; the text is in 11-point normal font; for example, “**Figure 3.** Original image...”. See Fig. 1 for an example of a figure caption. When the caption is too long to fit on one line, it should be justified to the right and left margins of the body of the text.

Tables are handled identically to figures, except that their captions appear above the table.

#### APPENDIX A. MISCELLANEOUS FORMATTING DETAILS

It is often useful to refer back (or forward) to other sections in the article. Such references are made by section number. When a section reference starts a sentence, Section is spelled out; otherwise use its abbreviation, for example, “In Sect. 2 we showed...” or “Section 2.1 contained a description...”. References to figures, tables, and theorems are handled the same way.

At the first occurrence of an acronym (unless it is widely known, such as MTF, CCD, FFT), spell it out, followed by the acronym in parentheses, e.g., noise power spectrum (NPS).

### A.1. Formatting Equations

Equations may appear in line with the text, if they are simple, short, and not of major importance; e.g.,  $\beta = b/r$ . Important equations appear on their own line. Such equations are centered. For example, “The expression for the minus-log-posterior is

$$\phi = |\mathbf{y} - \mathbf{Ax}|^2 + \alpha \log p(\mathbf{x}), \quad (1)$$

where  $\alpha$  determines the strength of ...” Principal equations are numbered, with the equation number placed within parentheses and right justified.

Equations are considered to be part of a sentence and should be punctuated accordingly. In the above example, a comma follows the equation because the next line is a subordinate clause. If the equation ends the sentence, a period should follow the equation. The line following an equation should not be indented unless it is meant to start a new paragraph. Indentation after an equation is avoided in LaTeX by not leaving a blank line between the equation and the subsequent text.

References to equations include the equation number in parentheses, for example, “Equation (1) shows ...” or “Combining Eqs. (2) and (3), we obtain...” Using a tilde in the LaTeX source file avoids unwanted line breaks.

### A.2. Formatting Theorems

To include theorems in a formal way, the theorem identification should appear in a 12-point, bold font, left justified and followed by a period. The text of the theorem continues on the same line in normal, 12-point font. For example,

**Theorem 1.** For any unbiased estimator...

Formal statements of lemmas and algorithms receive a similar treatment.

## APPENDIX B. SOME LATEX GUIDANCE

The output of the LaTeX utility is a file with the extension DVI (for Device Independent), which encodes the formatted document. The application DVIPS is typically used to convert the DVI file to a PS file. One DVIPS option that should always be specified is the one that incorporates (scalable) PostScript Type 1 fonts in the output PS file. This feature produces a subsequent PDF file that will be clearly displayed on a computer monitor by Adobe Acrobat Reader. The option “-P pdf” makes DVIPS include these fonts in its output PS file.

Manuscripts prepared with LaTeX sometimes have incorrect margins. These problems seem to be related to the document’s paper size. The paper size is set at two separate places in the process of creating a PS file. The first step in this process is to run `latex` on the LaTeX source file, together with the class file `samo.cls`. The default in `article.cls`, on which `samo.cls` is based, is US letter paper.

ALL MANUSCRIPTS SUBMITTED FOR THE SAMO PROCEEDINGS SHOULD BE FORMATTED FOR US LETTER PAPER.

To format a document for A4 paper (for purposes other than submitting for the proceedings), the first line of the LaTeX source file should be `\documentclass[a4paper]{samo}`.

DVIPS has its own default paper size, which can be overridden with the option “-t letter” or “-t a4”. If the foregoing steps do not produce the correct top margin, you can lower the text on the page (by 9 mm) with the command `\addtolength{\voffset}{9mm}`, placed right after the `\documentclass` command.

## ACKNOWLEDGMENTS

This unnumbered section is used to identify those who have aided the authors in understanding or accomplishing the work presented and to acknowledge sources of funding.

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